

# Northern Michigan FruitNet 2014

## Northwest Michigan Horticultural Research Center

### Special Update

May 20, 2014

#### Section 18 Specific Exemption DATES EXTENDED for Kasumin for Fire Blight Control for 2014

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The closing date for the **Section 18 Specific Exemption** for the use of Kasumin 2L (kasugamycin) on apples for fire blight control *has been extended to **June 15, 2014***. Because apples are behind in development this year, we faced the prospect of trees especially in Northwest Michigan still being in bloom after the original May 31, 2014 end date. The new label with the revised end date is available here (please put link to file in).

Kasumin 2L is to be used for the control of the blossom blight phase of fire blight on apple in 2014. This use is for orchards where streptomycin-resistant fire blight bacteria are present. The Section 18 is applicable to Antrim, Berrien, Cass, Grant Traverse, Ionia, Kent, Leelanau, Montcalm, Newaygo, Oceana, Ottawa, and Van Buren counties.

This Section 18 exemption *only applies* to counties where we have detected streptomycin-resistant isolates of the fire blight pathogen *Erwinia amylovora*. We currently have not detected any streptomycin resistance in eastern Michigan for example.

Kasumin 2L should be available in each region this year in time for bloom sprays. *Make sure you have the revised Section 18 label in hand when you are applying Kasumin 2L*. Do not apply Kasumin through any irrigation system.

All other important conditions and restrictions of the Section 18 specific exemption remain the same and are as follows:

1. Apply Kasumin only when the pathogen is resistant to streptomycin. We have documented streptomycin resistance in all of the counties listed in the first paragraph above.
2. Do not apply Kasumin as the first spray of the season. It can only be used after a first spray of a registered alternative. These can include copper, oxytetracycline, Serenade MAX, or other biological control agents.
3. Kasumin 2L may only be applied when the following condition is met:
  - a. only when the disease forecasting model and/or fire blight state expert determine that the weather conditions favor a disease epidemic.

This condition is similar to previous years. We have typically utilized the MaryBlyt fire blight prediction model, and have called for Kasumin applications when the Epiphytic Infection Potential (EIP) number from the MaryBlyt model **reaches or exceeds 100**. This model is available on the Enviroweather website; use the weather station closest to your orchard location

to get local conditions. Make sure to document the MaryBlyt EIP prediction (by printout or screen capture) to include in your spray records. Also, make sure that you document the EIP number when you make the decision to spray – since this number is predicted for the next few days out, the number can change as current conditions and predictions change.

In summary, the use of Kasumin 2L is limited to potential epidemic conditions; if these conditions are not present this year, other fire blight control materials such as oxytetracycline should be used.

3. A maximum of **two sequential applications** of Kasumin can be made at a rate of 2 quarts (64 fl. oz.)/acre. Applications are restricted to ground equipment and cannot be made through any type of irrigation system.
4. A maximum of **three applications** of Kasumin can be used (64 fl. oz. per acre), if authorized. Treatments can be made no later than petal fall.
5. **Alternate row applications are not allowed.** This requirement of the Section 18 exemption is for resistance management and was instituted in 2012.
6. Do not apply Kasumin as the first spray of the season. It should be applied only after the first spray of registered alternatives.
7. Do not use in orchards in which the soil has been fertilized with animal manure. This restriction addresses concerns that kasugamycin resistance could be transferred to *E. coli* bacteria present in animal manure.
8. Upon expiration of the exemption on June 15, 2014, all unopened and unused product must be returned to the dealer where purchased or to the manufacturer or disposed of in accordance with Resource Conservation and Recovery Act regulations following the expiration of the Section 18 exemption.

Kasumin 2L (kasugamycin), from Arysta, is an alternative antibiotic for fire blight management. Kasumin 2L will work equally on streptomycin-resistant and streptomycin-sensitive strains. The label rate is 2 quarts/acre.

Please note that my lab will also be conducting resistance monitoring in selected orchards this year that use Kasumin. This is to satisfy an EPA directive that we monitor for the occurrence of kasugamycin resistance, and also the potential for resistance to other related antibiotics. We will be taking leaf and soil samples from approximately 10 orchards throughout the state. These monitoring experiments will be conducted after petal fall. We have conducted these monitoring studies for the past three years in support of the Section 18 application. Our results have shown no risk of an increase in antibiotic resistance because of the Kasumin applications.

I want to thank Brian Verhougstraete, Pesticide Registration Manager of the Michigan Department of Agriculture for his support of this Section 18 request and for obtaining the closing date extension based on late tree development this year. Brian submits our request each year and serves as our liaison to EPA.



Arysta LifeScience

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**KASUMIN 2L**

**FOR CONTROL OF FIRE BLIGHT IN  
APPLES IN MICHIGAN  
SECTION 18 EMERGENCY EXEMPTION  
File Symbol: 14-MI-01**

**FOR DISTRIBUTION AND USE ONLY IN THE FOLLOWING MICHIGAN COUNTIES:  
ANTRIM, BERRIEN, CASS, GRAND TRAVERSE, IONIA, KENT, LEELANAU,  
MONTCALM, NEWAYGO, OCEANA, OTTAWA, AND VAN BUREN UNDER SECTION  
18 EMERGENCY EXEMPTION.**

These use directions must be in possession of the user at the time of pesticide application. It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read entire Directions for Use and Disclaimer of Warranties before using this product.

Any adverse effects resulting from the use of KASUMIN 2 L under this specific exemption must be immediately reported to the Michigan Department of Agriculture.

For Section 18 Emergency Exemption Use Only. Follow Section 18 Use Directions provided by your State and have them with you during application.

**EFFECTIVE PERIOD:**

This specific exemption becomes effective 03/28/14 and expires on 06/15/14.

A maximum of 10,000 acres of apples may be treated under this exemption.

**ACTIVE INGREDIENT:**

Kasugamycin Hydrochloride (Equivalent to 2.0% kasugamycin).....2.3 %

**OTHER INGREDIENTS:**.....97.7 %

**TOTAL**.....100.0 %

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

<b>FIRST AID</b>	
<b>If in eyes:</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>HOTLINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. <b>FOR 24-HOUR CHEMICAL EMERGENCY (Spill, Leak, Fire or Accident) ASSISTANCE:</b> call <b>CHEMTREC</b> at 1-800-424-9300 or 1-703-527-3887. <b>FOR 24-HOUR EMERGENCY MEDICAL ASSISTANCE:</b> call <b>PROSAR</b> at 1-866-303-6952 or 1-651-632-8946.	

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

Effective Date 03/28/14 Expiration Date 06/15/14  
05/20/14

**CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

#### **ENVIRONMENTAL HAZARDS**

**For terrestrial uses:** Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash waters.

#### **PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Applicators and other handlers must wear long-sleeved shirt and long pants, chemical resistant gloves, socks and shoes. Follow the manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables are available, use detergent and hot water. Keep and wash PPE separately from other laundry.

#### **USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

#### **GENERAL INFORMATION**

Kasumin 2L is a liquid formulation containing 2 percent kasugamycin. Kasugamycin is a bactericide that controls bacteria such as *Erwinia amylovora*, which causes fire blight in pome fruit.

**Resistance Management:** To reduce the likelihood of bacteria developing resistance to kasugamycin, sound resistance management practices should be employed when using this product. Such practices include limiting the consecutive application of Kasumin 2L, and alternating Kasumin 2L applications with other bactericides that have a different mode of action.

#### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on the label about personal protective equipment (PPE) and notification to workers

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of **12 hours**.

For early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water wear: coveralls, shoes, socks, and chemical resistant gloves made of any waterproof material, such as nitrile, butyl, neoprene, and / or barrier laminate.

#### **DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. This recommendation must be in the possession of the user at the time of application.

Kasumin 2L may only be applied when the following conditions are met:

- Only when the disease forecasting model and/or fire blight state experts determine that the weather conditions favor disease epidemic.

- Only in disease pressure areas of Michigan where streptomycin resistance is confirmed.

When the afore-mentioned conditions are met, a maximum of 3 applications of Kasumin 2L may be made by ground equipment only at a rate of 64 fluid ounces of product per acre. Where used, the full 64 ounce application of Kasumin 2L must be applied. Treatments of Kasumin 2L may be made no later than petal fall. Application through any type of irrigation system (i.e., chemigation) is prohibited.

Additionally, to help reduce the potential for kasugamycin resistance development, use under this exemption is subject to the following restrictions:

- Do not apply kasugamycin as the first spray of the season. It should be applied only after first spray of registered alternatives.
- A maximum of two sequential treatments of Kasumin 2L are permitted.
- Do not use in orchards in which the soil has been fertilized with animal manure. This restriction addresses concerns that kasugamycin-resistance could be transferred to *E. coli* in the feces.
- Do not use the alternate row method of application.

Kasumin 2L must be applied using properly calibrated, conventional ground application equipment designed for use in tree crops. Use sufficient water volume to obtain thorough uniform coverage of all plant surfaces, especially open blooms.

**Additives:** The addition of a wetting agent or spreader/sticker may enhance efficacy of Kasumin 2L.

**DIRECTION FOR USE**  
**For Control of Fire Blight in Apples**

Disease Control	Application Rate	Application Timing
<b>Fire Blight</b>	<b>64 fl oz/A in 100 gallons of water</b>	<ul style="list-style-type: none"> <li>▪ Begin applications during bloom when conditions favor disease development.</li> <li>▪ Repeat applications at 3-6 day intervals or when conditions favor disease development.</li> </ul>
<p><b>Notes:</b></p> <ul style="list-style-type: none"> <li>• Spray volume must be sufficient to provide good coverage of treated foliage.</li> <li>• Reduced spray volumes may be utilized for small trees where complete coverage can be obtained with a less than 100 gallons of water per acre.</li> <li>• Do not apply Kasumin 2L by air.</li> </ul>		

**STORAGE AND DISPOSAL**

Do not contaminate water, food or feed by storage or disposal.

**PESTICIDE STORAGE:** Store in a dry place away from excessive heat. Do not store near food or feed. Store in original container only.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or puncture and dispose of in a sanitary landfill, or (if allowed by State and local authorities) by burning. If burned, stay out of smoke.

#### **WARRANTY AND DISCLAIMER STATEMENT**

The directions for use of this product are believed to be adequate and must be followed carefully. However, it is impossible to eliminate all risks associated with the use of this product. Such risks may arise from weather conditions, soil factors, off-target movement, unconventional farming techniques, the presence of other materials, the manner of use or application, or other unknown factors, all of which are beyond the control of Arysta LifeScience North America, LLC ("Arysta"), and can cause crop injury, injury to non-target crops or plants, ineffectiveness of the product, or other unintended consequences. All such risks shall be assumed by the user or buyer.

Arysta warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks described above, when used in accordance with the Directions for Use under normal conditions. This warranty does not extend to the use of this product contrary to label instructions or under conditions not reasonably foreseeable to Arysta, and is subject to the inherent risks described above.

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**Any unused, unregistered product must either be returned to the manufacturer or distributor (unopened containers) or disposed of in accordance with Resource Conservation and Recovery Act regulations following the expiration of this quarantine exemption.**

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FOR 24-HOUR CHEMICAL EMERGENCY (Spill, Leak, Fire or Accident) ASSISTANCE:  
CALL CHEMTREC 1-800-424-9300**

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